

Amendments to the Claims

Please amend Claims 1, 3, 4, 6, 7 and 15-23 and add Claims 24-34 to read as follows.

1. (Currently Amended) A liquid discharge apparatus for discharging a liquid to a medium using a liquid discharge head having a plurality of nozzles for discharging the liquid, comprising:

~~a discharge amount changing device which can change the amounts of liquid discharged from the respective nozzles of the liquid discharge head independently of other nozzles of the plurality of nozzles;~~

~~said discharge amount changing device including~~ a voltage control device which can change a driving voltage value of a driving pulse to be supplied to each of the plurality of nozzles,

wherein said ~~discharge amount changing~~ voltage control device changes the driving voltage value in accordance with a change in at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used, ~~presence/absence of a faulty nozzle;~~ a direction of relative movement of the head and the medium, and a speed of the relative movement of the head and the medium.

2. (Cancelled)

3. (Currently Amended) A liquid discharge method of discharging a liquid to a medium using a liquid discharge head having a plurality of nozzles for discharging the liquid, comprising:

a step of discharging the liquid from the liquid discharge head which has only nozzles connected to a discharge amount changing device which can change the amount of liquid discharged from one of the nozzles by changing a driving voltage value of a driving pulse to be supplied to the nozzle,

wherein, in said discharging step, the discharge amount changing device changes the driving voltage value in accordance with a change in at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used, ~~presence/absence of a faulty nozzle~~, a direction of relative movement of the head and the medium, and a speed of the relative movement of the head and the medium.

4. (Currently Amended) A ~~display device~~ panel manufacturing apparatus for manufacturing a panel used for a display device ~~panel~~ by discharging, onto a substrate, liquid from a liquid discharge head having a plurality of nozzles for discharging the liquid, comprising:

~~a discharge amount changing device which can change the amounts of liquid discharged from the respective nozzles of the liquid discharge head independently of each of said plurality of nozzles;~~

~~said discharge amount changing device~~ including a voltage control device which can change a driving voltage value of a driving pulse to be supplied to each of said plurality of nozzles,

wherein said ~~discharge amount changing~~ voltage control device changes the driving voltage value in accordance with a change in at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used, ~~presence/absence of a faulty nozzle~~, a direction of relative movement of the head and the ~~medium~~ substrate, and a speed of the relative movement of the head and the ~~medium~~ substrate.

5. (Cancelled)

6. (Currently Amended) A ~~display device~~ panel manufacturing method of manufacturing a panel used for a display device ~~panel~~ by discharging, onto a substrate, liquid from a liquid discharge head having a plurality of nozzles for discharging the liquid,

wherein ~~a display device~~ the panel is manufactured by discharging the liquid from the liquid discharge head having only nozzles connected to a ~~discharge amount changing~~ voltage control device which can change a driving voltage value of a driving pulse to be supplied to a nozzle, and

wherein, in the discharging operation, the ~~discharge amount changing~~ voltage control device changes the driving voltage value in accordance with a change in at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used, ~~presence/absence of a faulty nozzle~~, a direction of relative movement of

the head and the ~~medium~~ substrate, and a speed of the relative movement of the head and the ~~medium~~ substrate.

7. (Currently Amended) A liquid discharge apparatus including a liquid discharge head having a plurality of nozzles including a predetermined nozzle whose liquid discharge amount can be changed, comprising:

a discharge amount control device which changes a discharge amount control value including at least one of conditions including a voltage value and a pulse width of a driving pulse to be supplied to the predetermined nozzle, ~~whose liquid discharge amount can be changed~~, in accordance with a change in a discharging condition for adjacent nozzles adjacent to the predetermined nozzle.

8. (Original) The apparatus according to claim 7, wherein said discharge amount control device changes the discharge amount control value for the predetermined nozzle depending on whether or not the liquid is discharged from the adjacent nozzles at substantially the same timing as a discharge timing of the predetermined nozzle.

9. (Previously Presented) The apparatus according to claim 7, wherein when the predetermined nozzle is a nozzle B, and the adjacent nozzles are nozzles A and C, said discharge amount control device changes the discharge amount control value for the nozzle B if one of the discharging conditions is changed, the discharging conditions

being associated with whether a liquid is discharged from at least one of the nozzles A and C at substantially the same time as the nozzle B, a liquid is discharged from at least one of the nozzles A and C at a time so near to a discharge time of the nozzle B as to influence the discharge amount of the nozzle B, or no liquid is discharged from either of the nozzles A and C at the time near the discharge timing of the nozzle B.

10. (Previously Presented) The liquid discharge apparatus according to claim 7, wherein said discharge amount control device changes the discharge amount control value for the predetermined nozzle so as to keep the discharge amount of the predetermined nozzle unchanged when the discharging condition for the adjacent nozzles is changed.

11. (Previously Presented) The apparatus according to claim 7, wherein when the number of nozzles of the liquid discharge head which are to be used is changed, said discharge amount control device changes a discharge amount control value for an end portion nozzle of the nozzles to be used, which end portion nozzle is located at an end portion.

12. (Previously Presented) The apparatus according to claim 7, wherein when a combination of nozzles of the liquid discharge head which are to be used is changed, said discharge amount control device changes the discharge amount control value for the predetermined nozzle due to a change in a use state of the adjacent nozzles.

13. (Previously Presented) The apparatus according to claim 7, wherein when the predetermined nozzle of the plurality of nozzles of the liquid discharge head becomes a faulty nozzle, and a combination of nozzles to be used changes as use of the predetermined nozzle is inhibited, said discharge amount control device changes discharge amount control values for the adjacent nozzles on both sides of the predetermined nozzle.

14. (Previously Presented) The apparatus according to claim 7, wherein when a discharge timing of the predetermined nozzle of a plurality of nozzles of the liquid discharge head is shifted, said discharge amount control device changes discharge amount control values for the predetermined nozzle whose discharge timing is shifted and for the adjacent nozzles on both sides of the predetermined nozzle.

15. (Currently Amended) A liquid discharge method of discharging a liquid, to a medium, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a discharge amount control step of changing ~~a discharge amount control value including~~ at least one of ~~conditions including~~ a voltage value and a pulse width of a driving pulse to be supplied to the nozzle in accordance with a change in at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used, ~~presence/absence of a faulty nozzle~~, a direction of relative movement of the head and the medium, and a speed of the relative movement of the head and the medium.

16. (Currently Amended) The method according to claim 6, wherein
~~the substrate has a pixel area partitioned by a black matrix;~~
~~the liquid discharge head discharges ink from the nozzles; and~~
the panel comprises a color filter is manufactured by discharging ink as the
liquid from the liquid discharge head to ~~the~~ a pixel area on the substrate, the pixel area
being partitioned by a black matrix.

17. (Currently Amended) The method according to claim 6, wherein
~~the substrate has a pixel area serving as a light-emitting portion;~~
~~the liquid discharge head discharges an electroluminescence material from~~
~~the nozzles; and~~
the panel comprises an electroluminescence device is manufactured by
discharging ~~the~~ an electroluminescence material as the liquid from the liquid discharge
head to ~~the~~ a pixel area on the substrate.

18. (Currently Amended) The method according to claim 6, wherein
~~the substrate has an area serving as a conductive thin film portion;~~
~~the liquid discharge head discharges a conductive thin film material from~~
~~the nozzles; and~~
the panel comprises an electron-emitting device having the conductive thin
film portion is manufactured by discharging ~~the~~ a conductive thin film material as the
liquid from the liquid discharge head to ~~the area on~~ the substrate.

19. (Currently Amended) The method according to claim 6, wherein ~~the substrate has areas serving as conductive thin film portions,~~
~~the liquid discharge head discharges a conductive thin film material from~~
~~the nozzles, and~~
the panel comprises a display panel including a plurality of
electron-emitting devices ~~having the conductive thin film portions~~ is manufactured by
discharging ~~the~~ a conductive thin film material as the liquid from the liquid discharge head
to ~~the areas on~~ the substrate.

20. (Currently Amended) A ~~display device~~ panel manufacturing method
of manufacturing a panel used for a display device ~~panel~~ by discharging a liquid, to a
substrate, from a liquid discharge head having a plurality of nozzles including a nozzle
whose liquid discharge amount can be changed, comprising:

a step of changing ~~a discharge amount control value including~~ at least one of
~~conditions including~~ a voltage value and a pulse width of a driving pulse to be supplied to
the nozzle in accordance with a change in at least one of conditions including a
combination of nozzles to be used, the number of nozzles to be used, ~~presence/absence of a~~
~~faulty nozzle~~, a direction of relative movement of the head and the ~~medium~~ substrate, and a
speed of the relative movement of the head and the ~~medium~~ substrate.

21. (Currently Amended) The method according to claim 20, wherein
the ~~display device~~ panel comprises a color filter.

22. (Currently Amended) The method according to claim 20, wherein the ~~display device~~ panel comprises an electroluminescence device.

23. (Currently Amended) The method according to claim 20, wherein the ~~display device~~ panel comprises ~~a display panel including~~ a plurality of electron-emitting devices having thin conductive film portions.

24. (New) A color filter manufacturing method which manufactures a color filter by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a step of changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to the nozzle in accordance with a change in at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used, a direction of relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

25. (New) A method of manufacturing a liquid crystal display panel having a color filter, comprising the steps of:

providing a color filter manufactured by the method according to Claim 24;
and

inserting a liquid crystal compound into a space between the color filter and a counter substrate.

26. (New) a method of manufacturing an apparatus having a liquid crystal display panel, comprising the steps of:

providing a liquid crystal display panel manufactured by the method according to Claim 25; and

connecting the liquid crystal display panel to a signal supply means which supplies the signal to the liquid crystal display panel.

27. (New) A panel manufacturing method of manufacturing a panel used for a display device by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a step of changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to the predetermined nozzle in accordance with a change in a discharging condition for at least one nozzle adjacent to the predetermined nozzle.

28. (New) The method according to Claim 27, wherein the discharging condition includes at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used, presence/absence of a faulty nozzle, a direction of

relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

29. (New) The method according to Claim 27, wherein the panel comprises a color filter.

30. (New) The method according to Claim 27, wherein the panel comprises an electroluminescence device.

31. (New) The method according to Claim 27, wherein the panel comprises a plurality of electron-emitting devices having conductive thin film portions.

32. (New) A color filter manufacturing method which manufactures a color filter by discharging a liquid, to a substrate, from a liquid discharge head having a plurality of nozzles including a nozzle whose liquid discharge amount can be changed, comprising:

a step of changing at least one of a voltage value and a pulse width of a driving pulse to be supplied to the predetermined nozzle in accordance with a change in a discharge condition for at least one nozzle adjacent to the predetermined nozzle,

wherein the discharging condition includes at least one of conditions including a combination of nozzles to be used, the number of nozzles to be used,

presence/absence of a faulty nozzle, a direction of relative movement of the head and the substrate, and a speed of the relative movement of the head and the substrate.

33. (New) A method of manufacturing a liquid crystal display panel having a color filter, comprising the steps of:

providing the color filter manufactured by the method according to Claim 32; and

inserting a liquid crystal compound into a space between the color filter and a counter substrate.

34. (New) A method of manufacturing an apparatus having a liquid crystal display panel comprising the steps of:

providing the liquid crystal display panel manufactured by the method according to Claim 33; and

connecting the liquid crystal display panel to a signal supply means which supplies the signal to the liquid crystal display panel.